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VOICE OF THE ELECTRIC UTILITY INDUSTRY

Court upholds 'useful' law

WASHINGTON—State regulators retain the power to decide who pays for cancelled utility facilities under a January Supreme Court decision.

The 8-1 ruling upholds a Pennsylvania law saying a plant must be used and useful before charging customers for its costs.

The decision rejected the argument that shareholders shouldn't have to bear the loss if a cancelled project was originally deemed prudent.

The ruling has no immediate impact on the two Pennsylvania utilities that challenged the constitutionality of the state law.

As a result of the Pennsylvania ruling, Duquesne Light Co., Pittsburgh, took charges against earnings of $34.6 million in the third quarter of 1987. Ohio Edison Co.'s Pennsylvania Power Co. cut $9.6-million from earnings. Those were two of the five utilities that had invested in now cancelled Davis-Bessie units 2 and 3 and Erie units 1 and 2.

Similar to PSNH case

The Supreme Court decision may dampen Public Service of New Hampshire's hopes for its challenge of a state law that prevents it from receiving Seabrook-related rate hikes until the nuclear plant is in service. A company spokesperson said he was encouraged

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A New Hampshire Senate bill proposes to acquire Public Service New Hampshire assets by creating a state power authority to condemn and buy PSNH for as much as $2 billion to prevent federal regulation. Given NU's offer, that apparently won't be enough money. See related story, p. 10.

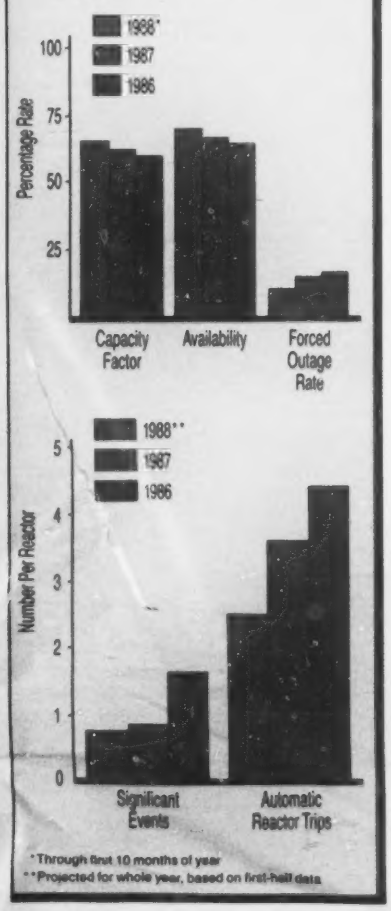
Seabrook operator New Hampshire Yankee by Feb. 1 planned to arrange a way for plant owners to pay $72 million for decommissioning. The NRC requested such assurance before granting a 5-percent operating license, because of other issues outstanding. After an NRC OK, low-power testing could begin mid-month.

ABB Asea Brown Boveri and Finmeccanica, member of the IRI Group, signed agreements for creating a jointly owned electro-mechanical group in Italy to make boilers, turbines, generators and other power plant equipment. See related story p. 3.

The NRC extended the operating license of the Edwin I. Hatch Nuclear Generating Plant for five years into 2014, for Unit 1 and 2018, for Unit 2. Georgia Power Co., Oglethorpe Power Corp., the Municipal Electric Authority of Georgia and City of Dalton own the plant, whose operation started in 1975.

NUCLEAR PLANT PERFORMANCE IMPROVES

Nuclear power plant performance improved in 1988 over the two previous years, according to the U.S. Committee on Energy Awareness. Six new plants went into service during the year, allowing nuclear power to provide 20 percent of the nation's energy requirements. (See article on page 3).



BE's Pilgrim ascends despite state suit, protesters

PLYMOUTH, MA—Protests followed Boston Edison's Dec. 30, 1988, restart of its 670-MW Pilgrim Nuclear Power Station. About 150 people demonstrated outside the gate Jan. 2, and 27 were arrested for trespassing after stepping inside BE property.

And while people protested at the gate, the Commonwealth of Massachusetts filed a suit in federal appeals court seeking review of the Nuclear Regulatory Commission's go ahead for plant operation. The suit also seeks to prevent plant operation above 25 percent.

Four-month ascension, costs

BE plans a four-month ascension to full-power operation. During the first few weeks, new operators are bringing the plant above the critical point and back under to complete their training and perform normal plant maintenance and testing.

During the 32-month shutdown, Pilgrim Station cost BE more than $600 million—$200 million for operations and maintenance expense, $205 million to meet capital costs, and $200 million for replacement power.

As for protestors and the state's questions about plant safety, BE's David Tarantino said the utility didn't plan to respond to the state's filing until early February, when Pilgrim Station is expected to reach 25-percent operational level.

Tarantino said the NRC called utility's revised emergency plan "far superi-

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PacifiCorp merges with Utah P&L Co.

PORTLAND, OR—After 17 months of proceedings, PacifiCorp has merged with Utah Power & Light Co. creating the tenth-largest U.S. utility in a stock deal worth $1.9 billion.

The new PacifiCorp is the third largest western utility, with a commanding transmission network.

PacifiCorp's Pacific Power & Light Co. division and Utah P&L division now serve 1.2 million customers in Utah, Oregon, California, Washington, Wyoming, Idaho, and Montana.

The 10-day pricing period for the exchange ended Jan. 3 with an average price of $35.713 for PacifiCorp common stock, yielding a .909 exchange ratio. That gave UP&L shareholders about 53.5 million new common shares in trade. UP&L preferred shareholders will receive PacifiCorp preferred on a share-for-share basis.

The deal became final Jan. 9.

Leadership is similar

PacifiCorp's board, at its Jan. 11 meeting, kept Al Gleason as president and chief executive officer; Don C. Frisbee remains as chairman of the board; David F. Bolender stays president of Pacific Power division; UP&L's Frank N. Davis becomes president of that division, but surrenders his CEO position for a seat on PacifiCorp's board.

In addition, three UP&L board members joined PacifiCorp's

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EL&P award presented to GPU

William G. Kuhns, chairman of General Public Utilities Corp. is shown hanging EL&P's commemorative award plaque connoting GPU's selection as 1988 Electric Utility of the Year. GPU's selection as 1988 winner of the annual award was announced in EL&P's November issue.The plaque hangs at GPU's headquarters in Parsippany, NJ. GPU was the 20th electric utility—and the first holding company—to be selected for the annual honor. GPU was selected on the strength of its recovery from the 1979 accident at Three Mile Island Unit 2 and the financial, operational and organizational difficulties that followed. Chairman Kuhns said the award is a testimonial to the dedication and hard work of the company's entire corporate family.GPU's subsidiary and operating companies are GPU Nuclear and GPU Service Co.(both located at the corporate headquarters in Parsippany, NJ), Jersey Central Power & Light Co. (Morristown, NJ), Metropolitan Edison Co. (Reading, PA) and Pennsylvania Electric Co. (Johnstown, PA).

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News Briefs

JILL MINNER, Assistant Editor

NorLight to extend fiber optic network

NorLight will extend its fiber optic network in Wisconsin to Green Bay, Appleton and Oshkosh this year, according to Wisconsin Public Service Vice President and NorLight Chairman Dan Bollom. Construction on the 128-mile Fox Valley extension is now in progress. Bollom said the network currently connects Chicago, Minneapolis, Milwaukee and other cities in Illinois, Wisconsin and Minnesota, and links them to about 175 cities nationwide via other networks.

VT utilities exercise H-Q power deal option

Twenty-four Vermont utilities said jointly that they would exercise an option under their power deal with Hydro-Quebec, to buy an additional 250 MW of electricity. The utilities signed a contract in December 1987 to import 200 MW of Canadian power with the option of buying an extra 300 MW. The 30-year contract for a total 450 MW, is worth about $4.6 billion, according to the utilities.

Oglethorpe and Georgia Power become joint owners of hydro project

Oglethorpe Power Corp. and Georgia Power Co. have signed an agreement to become joint owners of the Rocky Mountain Pumped Storage Hydroelectric Project. The project, which is 18-percent complete, will be capable of generating up to 848 MW of power, according to Oglethorpe. "After three years of intensive effort, we are excited about finalizing the Rocky Mountain arrangement with Georgia Power and the opportunity we now have to complete the project," stated Oglethorpe Power President and CEO F.F. Stacy. The utilities plan to start major construction of the project in 1990 and expect commercial operation to begin in 1996. Funding for the facility was made possible through a $706-million loan guarantee from the Rural Electrification Administration.

Palo Verde Unit 3 sets U.S. generating record

According to owners of the Arizona Nuclear Power Project, Palo Verde Unit 3 recently set a record for generating more electricity in a single year than any other U.S. nuclear unit. The unit reported generating over 10 million MWh during its first year of service. The owners of the project are: Arizona Public Service, Salt River Project, Southern California Edison, El Paso Electric, Public Service Co. of New Mexico, the Southern California Public Power Authority and the Los Angeles Department of Water and Power.

AEP to supply power to Carolina Power & Light

Indiana Michigan Power Co., a subsidiary of American Electric Power Service Corp. (AEP), plans to supply 250 MW of power to Carolina Power & Light Co. for 20 years beginning in January 1990. The electricity will be produced by Unit 2 of the utility's Rockport station, which is scheduled to begin operation in the fall of 1989.

DOE announces two Fermi Award recipients

Richard B. Setlow and Victor R. Weisskopf were named as recipients of the 1988 Enrico Fermi Award by the Department of Energy. Setlow, a biophysicist, was recognized for his contributions to the fields of radiation biophysics and molecular biology. Weisskopf, a nuclear and high energy physicist, was honored for his contributions to particle and nuclear physics. DOE said the award recognizes exceptional and outstanding scientific and technical achievement in the development, use or control of atomic energy.

South Texas 2 gets OK for low-power testing

The Nuclear Regulatory Commission Office of Nuclear Reactor Regulation issued a license to Houston Lighting & Power Co. for fuel loading and low-power testing at unit 2 of its South Texas Project. The license authorizes testing at power levels up to five percent of full power. Unit 2 uses pressurized water reactors and at full power has an electrical output capacity of about 1250 MW, according to the NRC. Other owners of the South Texas Project are Central Power & Light Co., the city of San Antonio and the city of Austin.

Penelec receives initial approval to close plant

Pennsylvania Electric Co. said it has been granted a conditional approval by the Public Utility Commission to close its Front Street station in Erie before October 1990. Penelec said the approval is contingent upon the commission approving its proposal to discontinue its Erie steam heat service.

TU Electric buys more Comanche Peak shares

Texas Utilities Co. said that its principal subsidiary, Texas Utilities Electric Co., recently acquired a share of the Comanche Peak nuclear plant. TU Electric signed an agreement with Brazos Electric Power Cooperative to buy its 3.8 percent share of Comanche Peak and settle pending litigation between the two companies. The purchase brings TU Electric's total share of the plant to slightly over 97 percent.

Nature Conservancy, NEP sign agreement

The Nature Conservancy, a non-profit organization dedicated to the preservation of natural diversity, said it has signed an agreement with New England Power Co. (NEP) to protect 11 ecologically significant sites near the utility's hydroelectric plants. According to The Nature Conservancy, NEP is the first electric utility in the country to sign such a comprehensive agreement with the organization. The agreement is part of a five-year, $10-million project to save 100 critical natural areas along the Connecticut River.

NEES appoints John Rowe president, CEO

John W. Rowe assumed responsibilities as New England Electric System (NEES) president, CEO and director in February. He replaced Samuel Huntington, who was struck and killed by lightning in Aspen, CO, last summer. Before joining NEES, Rowe served as president of Central Maine Power Company.

John W. Rowe

EEI senior VP retires

Edison Electric Institute Senior Vice President and Secretary Prall Culviner has retired and established himself as a consultant. Culviner spent almost four decades with EEI holding various positions including editorial director and vice president-public, employee and investor relations.

PA Energy Research Council picks chairman

The Pennsylvania Electric Energy Research Council has chosen Eugene R. Cathcart as its first chairman. Cathcart is vice president technical-generation at Pennsylvania Electric Company. The council, made up of members from investor-owned utilities and the Pennsylvania Rural Electric Association, coordinates energy research activities in Pennsylvania and the generation of new research and development activities to benefit the state's economy and the natural environment.

UtiliCorp divisions announce promotions

UtiliCo Group, a subsidiary of UtiliCorp United, has announced the promotion of Donald K. Claar from vice president to president. UtiliCo Group pursues opportunities in independent and wholesale electric power generation.

In the West Virginia Power division of UtiliCorp United, John W. McKinney has been promoted to senior vice president, operations and will also serve as chief operating officer of the division.

Control Data sells SIS division to B&W unit

Control Data Corp. has announced the sale of its Scientific Information Services (SIS) Division to Power Computing, a unit of Babcock & Wilcox. The SIS division markets timesharing services to engineering, scientific and electric power utility customers primarily in the United States. Under the terms of the agreement, Power Computing will assume responsibility for customer contracts of SIS, according to Babcock & Wilcox.

Stone & Webster forms new subsidiary

Stone & Webster, Inc. has announced the formation of its new operating subsidiary, Stone & Webster Development Corporation. The subsidiary will develop projects, primarily relating to power generation, which are wholly or jointly owned and operated by Stone & Webster. James N. White was appointed chairman and president of the company and James E. Huston was named executive vice president.

Utilities fined by NRC

The Nuclear Regulatory Commission recently proposed the following fines:

Ariz. Nuclear Power Project
A $200,000 fine for alleged violations of NRC requirements involving radiation protection at units 1, 2, and 3 of the Palo Verde nuclear power station.
A $50,000 fine for an alleged violation of NRC requirements involving reactor operations at Palo Verde Unit 1.

Commonwealth Edison Co.
A $75,000 fine for deficiencies in its testing program for reactor components at the Braidwood nuclear power station.

Consumers Power Co.
A $150,000 fine for failing to adequately test some reactor components at the Palisades nuclear power station.

Duke Power Co.
A $25,000 fine for alleged violation of NRC requirements at the Oconee nuclear plant.

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More coal, N-plants fuel 1988 demand growth

WASHINGTON—The nuclear and coal industries both boasted record years in 1988 as utilities enjoyed healthy gains in kilowatthour sales to industrial and commercial customers.

Six nuclear plants began service in 1988, increasing the nuclear share of U.S. electrical production from 18 to 20 percent, according to the U.S. Council for Energy Awareness. And the coal industry, boosted by high utility consumption and good economic conditions, enjoyed a third consecutive year of record consumption, with 958-million tons, stated the National Coal Association.

In 1988, the industrial and commercial sectors of the U.S. economy accounted for the major portion of electric demand growth with gains of 5.0 and 5.2 percent, respectively, in the first three quarters, USCEA said.

Nuclear Power Plant Performance

Average Per Reactor	1988*	1987	1986
Capacity Factor	66.2%	62.0%	60.4%
Availability Factor	71.0	67.2	65.5
Forced Outage Rate	10.3	15.1	16.6
Significant Events	0.80**	0.85	1.66
Automatic Reactor Trips	2.52**	3.64	4.41

*Through October 1988.
**Projected, based on data for first-half 1988.
Source: U.S. Nuclear Regulatory Commission.

Demand increase exceeds forecasts

Overall, 1988 electricity demand exceeded most forecasts. Figures indicate 1988 growth at 4.5 percent, spurred by Gross National Product expansion of 3.9 percent, cited USCEA. NCA projected a slightly higher 1988 year-end electric demand growth of 4.8 percent.

New England had an early case of winter jitters: the first cold snap drove electricity consumption to a new record on Dec. 12, 1988, eclipsing the previous high, set last Aug. 11. The early cold wave, combined with strong consumer demand, set record winter peaks in Michigan and New York State, as well. (See related story, page 8.)

In July and August, a number of utilities found themselves in the 1990s, in terms of power demand. Brownouts, rolling blackouts, voltage reductions and supply problems pointed to a dangerous narrowing of capacity margins in some regions.

The problems of reduced margins, especially for the mid-term future, was compounded by a 15-year low in large and small plant construction by utilities and independent power suppliers. Utilities have elected not to assume the financial risks resulting from state regulators' negative ratemaking decisions, USCEA commented.

In the past decade, state regulators have disallowed recovery in electric rates of nearly $9 billion in plant construction costs. About 13 more utilities await decisions concerning inclusion of plant construction cost in their rate bases. With such uncertainty about state regulatory treatment of capital-cost recovery, utilities are reluctant to invest in new baseload plants, USCEA said.

The rate of current construction can sustain electricity demand growth of only 1 percent per year, but average growth for the past five years, including 1988, is 3.6 percent. Clearly, USCEA pointed out, there is trouble ahead, but more reliable nuclear plants can help meet demand in some areas.

Electricity Demand Growth

	Through Sept. 1988	Full Year 1987	Full Year 1986
Residential	+4.5%	+3.9%	+3.0%
Commercial	+5.2	+5.0	+6.1
Industrial	+5.0	+4.6	−3.2
Other*	−5.8	+4.1	−9.3
TOTAL	+4.5	+4.5	+1.1

*Includes electricity sales to government, railways, street-lighting authorities and sales not included elsewhere.
Source: U.S. Department of Energy's Energy Information Administration "Monthly Energy Review," September 1988.

N-capacity, availability increase

Both the capacity factor and availability of nuclear plants seem likely to continue to increase, USCEA predicted. The average capacity factor—percentage ratio of actual nuclear plant output to maximum potential output—for the first 10 months in 1988 was 66.2 percent. If the seven plants not operating

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BE's Pilgrim ascends...

or" to plans previously in place. In December, the NRC staff indicated no deficiencies or weaknesses in the annual on-site emergency preparedness exercise. The NRC Inspection Report states BE's "emergency response actions were adequate to provide protective measures for the health and safety of the public."

Ralph G. Bird, senior vice president-nuclear, reaffirmed BE's commitment to continue working with the Commonwealth and local towns to complete the upgrade of off-site emergency plans.

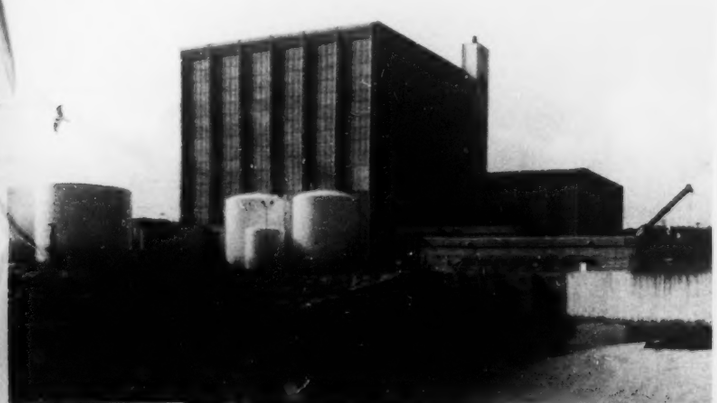
Major improvements

Pilgrim additions included installation of a:

- Third diesel generator to guard against station blackout.
- Hard-pipe vent path from the torus to the main stack, reducing long-term stress on containment by providing another method of cooling the torus should primary cooling fail. It also reduces the amount of radioactive material that would be released to the environment by filtering the effluent through the water in the torus.
- A more effective, enriched boron-10 solution in the standby liquid control system. That system injects a boron solution into the reactor for shutdown in case the control rods fail to operate.
- Another diesel-driven firewater pump as a backup.

Plant improvements included:

- Improvements to the reactor control systems, including the addition of an automatic shutdown circuit for feedwater pumps in the event excessive reactor pressure. The setpoints of the reactor-core isolation system also were changed to allow greater range of operation during accidents.
- Modified containment spray nozzles for a lower flow rate for fewer restrictions for greater control of containment temperature and pressure, fission product scrubbing and core debris cooling.
- Various switchyard control modifications to improve reliability.



Boston Edison Co.'s Pilgrim nuclear plant restarted after a 32-month shutdown and $200 million in repairs and maintenance. The outage cost BE $605 million, with capital and replacement power

Justice Department cautions ABB/Westinghouse ventures

WASHINGTON—Westinghouse Electric Corp. and Asea Brown Boveri Inc. were negotiating with the U.S. Department of Justice at *EL&P* press time in an effort to remedy "anticompetitive aspects" of the two companies' proposed joint ventures, one for the manufacture and marketing of generation equipment and the other for transmission and distribution apparatus.

Although company representatives seemed encouraged that a deal could be worked out to thwart a Justice Department suit, none would reveal any details about the talks.

However, sources inside both companies suggested that the generation joint venture is probably dead. Only through sale of one of the two power transformer businesses could the T&D venture be concluded, the sources said.

On Jan. 9, the department's Antitrust Division advised the parties that both joint ventures would violate Section 7 of the Clayton Act, which prohibits anticompetitive mergers.

"Because of the significant role the joint ventures' products and services play in the generation and transmission of electric power, the reduction of competition in these markets would likely mean higher electric rates for all users of electricity and higher prices for many products manufactured using electricity," explained Charles F. Rule, assistant attorney general in charge of the Antitrust Division.

The competitive concerns caused by one of the ventures focus on the sales of power transformers. Combined Westinghouse and ABB U.S. sales of power transformers would exceed 50 percent of the total U.S. market last year, more than $400 million.

The generation venture combines two of the three leading suppliers of medium and large steam turbine generators. The other is General Electric of Fairfield, CT. Only two other firms have made any U.S. sales of such equipment over the last five years.

Finally, Rule pointed out, Westinghouse and ABB are two of only four significant sellers of major turbine generator repair and related services to U.S. utilities, the other two being GE and Utility Power Corp., a subsidiary of Siemens A.G. of West Germany.

U.S. sales of steam turbine generators and pertinent services are estimated at more than $600 million a year.

Westinghouse is based in Pittsburgh and Asea Brown Boveri Inc. is headquartered in Purchase, NY.

In connection with the Westinghouse ABB Power Transmission joint venture a new company—ABB Power Systems Inc.—will be established with headquarters in North Brunswick, NJ, ABB announced in December.

Carlos N. Diaz, former president of Asea Brown Boveri Ltd., Sao Paulo, Brazil, was appointed president of ABB Power Systems Inc. as of mid-January.

Reagan's budget: utilities pay all NRC costs

WASHINGTON—The Reagan budget proposes that nuclear utilities pay for all Nuclear Regulatory Commission costs, $426 million for FY-1989 and $475 million for FY-1990. Last year, the amount utilities paid increased from 33 to 45 percent.

The Omnibus Budget Reconciliation Act of 1987 required the NRC to collect 45 percent of its $392.8-million fiscal-1988 budget, or $177 million, from the reactor systems it regulates. That increase, up from 33 percent in 1987, amounted to $350,000 per reactor.

EEI opposes 100-percent payment

Although it's not clear yet if the Bush Administration, or Congress, would keep the 100-percent requirement, the Edison Electric Institute spoke out sharply against the proposal. A spokesperson pointed out that the NRC spends far less than 100 percent of its budget for regulating licensees.

The Department of Energy budget asks for $15 billion, a 7.7-percent increase over last year. DOE's energy research and development budget, $3.6 billion, includes $325 million for the clean coal program.

In millions, R&D for fossil energy would decrease from $380.6 to $163.6; conservation, $162.6 to $87.9; renewable energy from $150.5 to $114.0; and nuclear energy R&D $354.9 to $352.9.

Defense, 60 percent of the department's budget, was increased $927 million to modernize and improve safety and environment within the nuclear weapons complex.

DOE also asked for $250 million to begin the Super Collider project.

Bush names energy chief

In a related development, President George Bush named retired Adm. James Watkins, a nuclear submariner, as energy secretary on Jan. 12.

COMMENTARY

'As Maine goes, so goes the nation?' Let's hope not.

The old political adage—As Maine goes, so goes the nation—may be accurate more often than it's wrong in presidential elections. But in terms of regulatory precedent, we would hope that there is no relationship between what our most Northeastern state does and what will be done elsewhere.

The reason for our concern is that the Maine Public Utility Commission has ruled against a program under which Central Maine Power Co. would construct a tieline to the Maine-Quebec border to import Canadian power generated in Northern Quebec and contract for 300-MW over 29 years starting in 1992. Instead of allowing Maine consumers the use of abundant, economic and available Canadian electricity, the PUC has ruled that conservation, load management and non-utility generation are the way to go. Rather than guaranteeing an abundance of economic electricity, the PUC has elected to go the other way and share a shortage. The only real question is how soon?

There are several fallacies in the Commission's reasoning, it seems to us.

First, conservation has two characteristics. It appeals most and is most affordable to the affluent, who can afford to replace old, low-efficiency electrical devices with new, efficient ones. As a result, it penalizes those unable to install those new energy-efficient devices by forcing them to simply use less, or certainly no more electricity than at present, and to pay relatively higher costs because of their appliances' lower efficiencies.

Second, Commission-imposed conservation, without construction of the tie-line to Hydro Quebec, means Central Maine must keep its generation system up and operating longer. Older units that might be shut down in low-demand periods may have to be operated, regardless of poor efficiencies, unfavorable economics or environmental penalties. Cogeneration and other non-utility generation can mitigate against this, perhaps, to some degree. But there are some questions about reliability and cost here too.

Third, the Commission's decision will reduce CMP's independence and self-sufficiency. If Maine electrical users don't conserve sufficiently, or if weather conditions and unscheduled outages combine to leave Central Maine in an energy-deficient condition, or the economic growth rate accelerates, CMP will be faced with buying emergency power from other New England utilities, who already are becoming increasingly dependent on imported Canadian power. And rates under emergency conditions seldom tend to be low.

Fourth, the Commission's ruling apparently gives little weight to the economic and environmental benefits CMP's customers already have enjoyed from the Canadian power the company has been able to import already. Favorable contract conditions have reduced avoided costs and, as a result, the rates CMP pays for power generated by non-utility sources. Ratepayers have profitted from the past arrangements between the CMP and the Canadian utility, a principle reason the Hydro-Quebec project was supported so broadly by individuals and groups throughout the state.

Finally, and perhaps most importantly, the Maine PUC's decision seems to substitute the Commission's decision-making for that of utility management. Such a pro-active invasion of the Commission into the mid- to long-term power-supply planning and decision-making of the utility's management leaves the utility responsible for meeting customers' demands, but may proclude it from meeting that responsibility. If the Commission's actions *before the fact* should prove to be wrong, who will makeup the power-supply deficiencies? The state government has no electrical capacity. The commissioners responsible for the decision will be long gone. So who's left? Only Central Maine Power will be around to bear the ire of customers and to obtain needed power from wherever to meet consumers' needs.

Conservation is a tool. Load management is a tool. Use of off-system power supply is a tool. New power plants and transmission lines are tools. The choice of which tool or tools should be used to do the job, it seems to us, is best left to the one responsible for doing the job. And in this case, that is the utility.

We would hope that other commissions do not take the Maine PUC's actions as a guide. Long-term, such an approach can only lead to problems of far greater consequence than those the PUC actions are purported to solve.

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Smart house, rebates top energy-efficiency projects

BARRINGTON, IL—As capacity margins narrow in many regions, alternate power suppliers line up, and utilities begin to assess the cost of building new capacity, conservation and methods of improving efficiencies of energy use become attractive alternatives.

National organizations and individual utilities are actively involved in developing new approaches to reduce demand growth.

Houses get smart, electrically

On the national level, the Edison Electric Institute, Electric Power Research Institute and others are developing the Electric Smart House. The $3-million project is scheduled to be commercially available by 1992 for homes in all price levels and all regions.

The project was organized by EEI in cooperation with the National Association of Home Builders (NAHB), National Research Center, EPRI and the National Rural Electric Cooperatives Association. The purpose is to demonstrate added energy efficiency, convenience and safety, and advance home automation and building techniques.

Construction of the prototype single family home, starting this spring at NAHB's National Research Center headquarters in Bowie, MD, will be completed by midyear. Later stages of the project will apply the concept to multifamily dwellings and retrofitting existing homes.

Included in the homes will be super-insulations; new "smart," energy-efficient appliances; "thermal envelope" weatherization; and a single wiring network to safely control the distribution of electricity and communications.

Thirty-five utilities are participating directly in the project.

CL&P builds efficiency incentives

Connecticut Light and Power Co. is offering to pay some or all incremental design and construction costs of energy-saving features in new buildings, one of 13 services forming CP&L's Energy Alliance plan for demand reduction.

The $24-million, 1989 investment is expected to save 970 GWh over the life of the new energy-efficient equipment.

Incentives are based on lifetime kilowatthour savings of energy-efficient lighting, motors, heating and air conditioning equipment and controls, and added insulation up to 3.6¢/kWh over equipment lifetime. That amounts to $15 for each four-lamp lens-type lighting fixture with one electronic ballast.

CL&P has demonstrated it can reduce a building's energy use by 36 percent without raising construction cost.

A recent CP&L residential program over seven years helped more than 200,000 households reduce costs, saving customers more than $42 million. A nonprofit organization now provides similar conservation measures.

BE pays generators, off-peak chillers

Boston Edison Co. also offers new construction incentives as part of a "Power Package" of 31 programs.

Efficient electrical systems bring rebates, cool storage systems earn up to $200/kW shifted, and standby generators qualify for up to $60/kW annually for use at BE's request at summer and winter peaks.

Regulators push all-source planning

On Feb. 15, Massachusetts Department of Public Utilties (DPU) will hold public hearings on a new all-source bidding process designed to increase power supply options, including those to lower demand and energy costs through conservation and load management, independent power producers, qualified facilities under PURPA, and the utility itself.

Every two years the state would review utility long-range plans and require utilities to participate in bidding to meet projected energy needs.

DPU Chairman Bernice K. McIntyre said, in part, "Such a process would significantly increase the regulators' and therefore the public's participation in decisions previously made entirely by the electric company with only after-the-fact review."

NSP energy conservation magazine

Northern States Power is publishing a quarterly four-color magazine called *Premier* that highlights business developments of commercial and industrial (C&I) customers.

NSP wanted a fresh approach to strengthening relationships with its 100,000 C&I customers to relate messages of low electric rates, energy savings programs, conservation, load shifting and peak clipping, while encouraging expansion or relocation within its service area.

"This publication will cut through the normal marketing clutter of direct mail pieces and bill inserts. It also uses our limited marketing promotion dollars more efficiently," said Pam Fricke, NSP's manager of marketing communications. "It has the impact of advertising and the targeting of direct mail."

WEPCo pays $23 M in 'Smart Money'

Over the past two years, Wisconsin Electric Power Co. has paid its residential customers more than $23 million for investing in electric efficiency in their homes through their Smart Money program. Residential peak demand was reduced 47 MW, 188 percent more than the original goal of 25 MW.

Incentives include zero-interest loans and rebates from $10 to $650 for the purchase of energy-efficient appliances and light fixtures; $100 savings bonds for removing older, inefficient appliances; custom-designed conservation measures for electrically heated homes; and a special offer covering substitution of compact fluorescent lights for standard incandescent lamp bulbs.

A goal of reducing commercial and industrial demand by 100 MW was surpassed by signing on reductions totalling 108 MW, but only 62 MW were completed by the end of 1988.

MG&E offers rebates to shave peak

Record high summer demand helped prompt Madison Gas & Electric Co. to offer a new, comprehensive set of energy conservation services to business, including cash rebates.

Incentives cover from 25 to 50 percent of materials and installation costs through the business' own contractor or supplier, providing a quicker payback of project costs, said Claire Fulenwider, MG&E director-marketing. Typical measures can reduce lighting bills by 50 percent and overall electric bills by up to 20 percent.

Florida solar owner satisfaction

More than 94 percent of a sample of 1000 Florida homeowners with solar water heating expressed satisfaction in a random survey conducted by the Florida Solar Energy Industries Association. More than 85 percent of those surveyed said they would purchase another solar system for their next home.

Although more than one-million U.S. homes have solar water heating, the U.S. lags behind other industrialized nations in utilizing solar thermal applications, said Scott Sklar, executive director of the Solar Energy Industries Association, a manufacturers group.

New consumption and production records set

BARRINGTON, IL—Around the country and around the world, electrical demand is reaching new heights; while in North America, at least, electrical generation is also continuing to set new records.

In New England, consumers used a record amount of electricity on the frigid evening of Dec. 12, 1988, according to the New England Power Pool (NEPOOL). Demand shot up to 19,596 MW, establishing an all-time power system peak for the six-state region.

The new peak surpassed the old record of 19,500 MW that was set during broiling summer weather on the previous Aug. 11. The new winter peak also represented a nearly 2-percent increase over the prior winter record of 19,277 MW set on January 14, 1988.

NEPOOL officials noted that there was no shortage for most customers during the recent peak because supplemental power supplies were available from utilities in New York and Canada. Also helping were the voluntary cutbacks made by commercial and industrial customers in the early morning and early evening on Dec. 12.

The most recent forecast by the pool for the winter period was that demand might reach even a higher plateau of 19,800 MW during January 1989.

Nearby Long Island

Long Island Lighting Co., too, hit a wintertime record peak, but on the freezing night of Jan. 4. The demand went up to 3017 MW at 7 p.m., which surpassed the previous record of 2995 MW set on Dec. 12, 1988. The new record left behind the '87-'88 heating season peak of 2935 MW set on Jan. 14, 1988.

Said William Museler, LILCo vice president of electric operations, "The record demand was caused by high winds and subfreezing temperatures which resulted in higher-than-normal usage of electric heaters." He also explained that the demand exceeded company forecasts for the '88-'89 winter period. But he went on, "We also have added more than 13,000 customers this year as Long Island continues to grow..."

Switch the spotlight to Michigan where Consumers Power, for the 22nd consecutive month, delivered a record amount of electricity in Dec. 1988. Sendout was 2.73-million MWh. This was 5.3-percent higher than was reached in December 1987, the previous high for a month for Consumers.

And a new all-time peak of 5025 MW was set by the utility on Dec. 12, 1988. This, in turn, was 8.4-percent higher than the highest demand for a December in the utility's history.

Rounding up 1988's figures, Consumers reported that total electric sales were 29.3-million MWh, 5.2 percent above 1987 sales and the fifth consecutive year of record electric sales.

The 1988 sales growth was the highest annual percentage increase for the utility since 1976, and more than 70 individual record sendouts were set in '88. One of these was the all-time peak demand of 5869 MW on Aug. 17, which marked the third consecutive year with a new all-time peak.

Over the past five years, demand has grown 17.3 percent in the utility's service area.

William McCormick Jr., chairman and CEO of CMS Energy Corp. (Consumers' parent company), noted, "The pattern of sustained growth in electric demand from our customers is clearly established." He also pointed out that Consumers' operating reserve margin had shrunk from 28 percent in 1983 to just 9 percent on the record day, less than half the 23-25-percent level considered prudent by state regulators and utility experts.

And you think we got it bad...

In the United States, we apparently are rather well off, as seen from the preceding items. But not so in some other parts of the world.

Factories in China are having to shut down completely due, the government there reports, to a shortage of coal, which supplies 80 percent of the country's power. One-fifth of China's industrial capacity is estimated to be idled by the energy crisis, according to *The Wall Street Journal*.

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Recent utility workforce trimmings continue trend

LEXINGTON, MA—Investor-owned utilities continue the trend of serving customers with fewer employees, according to a consulting firm's recent survey of 120 investor-owned utilities.

The number of electric utility employees serving 100 customers declined from 7.41 in 1986 to 6.76 in 1987, while the number serving gas customers also decreased from 4.29 to 3.76 during the same period. These results reflect continuing cutbacks in electric utilities since 1986, and streamlining at gas utilities since 1983, said consultants at Temple, Barker & Sloane Inc.

Investor-Owned Utilities Report Continuing Staff Reductions
1988 Staffing Survey

Type of Reduction	Percentage of Utilities Reporting Staffing Programs: Electric	Combination	Gas	Total Investor-Owned Utilities
Early Retirement Programs	44	15	21	31
Reorganization/Restructuring	39	32	21	34
Layoffs	12	20	8	14
Attrition	29	20	14	21
Hiring Freezes	27	24	8	23
Other	15	8	8	11
At Least One of Above	68	68	36	63

Source: Temple, Barker & Sloane Staffing Survey

Increased competition

The decline, said Robert Wayland, head of TBS's energy group, may be attributed to increased efforts to streamline in anticipation of increased competition, in addition to the completion of major construction programs and the use of contract personnel.

Examples of utility reductions in recent months include Duke Power Co., Public Service New Mexico, Tennessee Valley Authority and Arizona Public Service Co. None of those utilities, however, said those workforce cuts would be their only method of streamlining.

Management style change needed

Because the more traditional methods of staff reductions, such as attrition, freezes and early retirement programs, have been nearly exhausted, TBS suggests that changes in utilities' management style are now required to permanently reduce costs.

"The days of reducing the work force without changing the way it is managed are coming to an end," explained Rodney Plimpton, a vice president in TBS's organizational analysis group. Reducing headcount without basic management changes can weaken the utility, he warned. More self-management and less bureaucratic control can help by building teams at the top, enabling workers and management to understand what is being done and why, he said.

Simpler organization

This results, the consultants stated, in simpler organization with clearer responsibilities and more individual commitment to common goals.

About 34 of the utilities reported extensive restructuring or reorganization programs in the last three years and 31 percent reported early retirement programs. In all, 63 percent of the respondents had used some kind of staff cutback program.

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PacifiCorp and UP&L merge...

board—Michael Leavitt, John A. Lindquist, and Don Wheeler. With the resignation of two PacifiCorp board members, the number stands at 19.

Organizational changes include the creation of two executive vice prisidencies at each utility division in charge of operations and administration. Power for both divisions is consolidated under the executive vice president of power supply, Robert Smith who will move to the Utah division and report to Davis. Smith was formerly Pacific Power's senior vice president-power supply.

The executive vice presidents of administration will split support duties between the two utility divisions, although each division will maintain some staff for each function. The goal, explained Pacific Power's Patrick Slattery, is to avoid duplication of services, especially at the senior management level.

Al Gleason

Don Frisbee

Combined workforce is now 8968 and the target is to reduce that by 500 over five years through attrition, Slattery said. Some personnel—about 60 the first year—will be moved between divisions.

Savings from merge efficiency

Utility executives anticipate savings of $500 million over five years from added efficiencies. The combination yields about $2 billion in combined annual revenue, a 28,000-mile transmission network, and a better demand curve through the combination of opposite seasonal peaks. UP&L has primarily coal-fired generation and a summer peak, and Pacific Power, about one-third hydro and a winter peak.

Conditional approval

After regulatory approval came from all seven states the two companies operate in, the Federal Energy Regulatory Commission conditionally approved the merger with special stipulations for transmission access. The Utah commission reexamined the merger and reapproved, projecting that its customers would save at least $95 million in present dollars within the first five years, with benefits increasing in later years (*EL&P*, p.1, Dec.'88).

Dave Bolender

Frank Davis

Both utilities stated that costs of the FERC conditions—about $5 million for five years—are minimal compared to the overall benefits and savings.

Transmission rules not a precedent

Industry concern over the transmission limitations seem unfounded. Martha Hesse, FERC chairman, has said the transmission ruling only applies to this case and was not intended to be a national policy on transmission access.

The last in a long string of approvals came from the Nuclear Regulatory Commission, needed because of Pacific Power's 2.5-percent ownership share in the Trojan nuclear plant.

Looking at combined financial performance for the companies through September 1988, earnings were: $325 M, up from $277 M; earnings per common share: $2.64, up from $2.27; net income: $340 M, up from $294 M; assets: $9.1 B, up from $9.0 B at the end of December '87.

Before the merger, PacifiCorp's nonutility holdings—mining and resource development, telecommunications and financial services—brought about 40 percent of all earnings.

UP&L ratings drop

Because the merged UP&L will incur initial fixed-charge coverages and a capital structure ranking below that of pre-merger UP&L, Moody's Investors Service downgraded UP&L credit ratings in late December. Despite that, Moody's praised the numerous benefits to both companies, including the ability to play a major role in the rapidly developing firm and non-firm competitive power market. PacifiCorp is now a transmission utility for other utilities in the region, analysts said.

Expected benefit

UP&L ratepayers are expected to benefit from a 2-percent rate decrease immediately with a total of 5-10 percent, subsequently.

UP&L is based in Salt Lake City.